

REMARKS

This Amendment is filed in response to the Office Action mailed Dec. 8th, 2005. All objections and rejections are respectfully traversed.

Claims 1-41 are now pending in the case.

New claims 34-41 have been added.

Claims 27 and 32 have been amended.

Request for Interview

The Applicant respectfully requests a telephonic interview with the Examiner at such time as is convenient for the Examiner, but prior to the issue of the next Office Action. The Applicant believes such contact may more efficiently advance the prosecution of the case. The Applicant's attorney may be contacted at 617-951-2500.

Examiner's Response to Arguments

At paragraphs 3-8 of the Office Action, the Examiner comments on the Applicant's previous arguments. To advance the prosecution of this case, the Applicant would like to respond specifically to these comments.

First, at paragraph 4 of the Office Action, the Examiner states that "uniformly distributing data transmitted by a server over a plurality of underlying links" has not been given patentable weight as it is recited in the preamble of claims. In light of the Examiner's comments, the Applicant has added dependent claims 34-36 that claim, in part, apportioning data "substantially equally over the plurality of underlying links of the aggregate within the computer network." Accordingly, such limitation should now be given patentable weight.

At paragraphs 5-6 of the Office Action, the Examiner states that the Applicant's claimed "associating each fragment to an underlying link of the aggregate on the basis of an Internet protocol (IP) identifier (ID) of each datagram" is shown by Boucher's "routing of datagram using IP destination address through interfaces."

The Applicant respectfully urges that an **IP ID** is far different than an **IP Destination Address**. Therefore, a reference that merely shows associating a datagram with a link based upon an **IP Destination Address** in no way suggests associating a datagram fragment with a link on the basis of an **IP ID**.

Below is a representation of a conventional IP packet header, reprinted from the textbook *TCP/IP Illustrated Volume 1*, by W. Richard Stevens, Addison Wesley 1994, p. 34. (a copy of page 34 was previously sent to the Examiner in relation to the last Amendment)

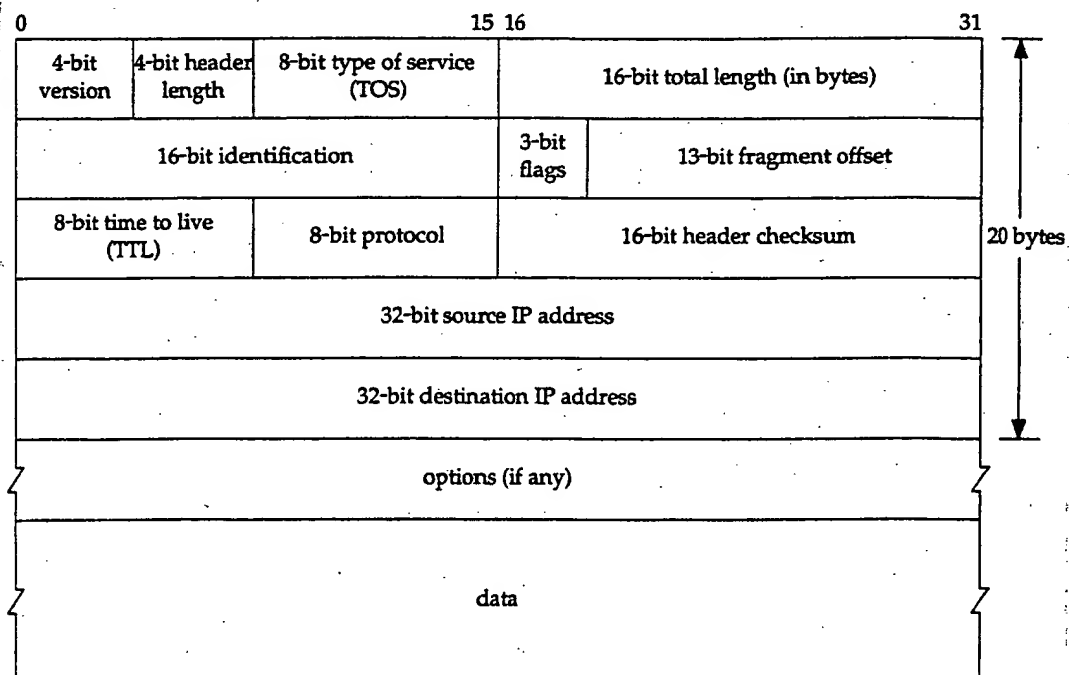


Figure 3.1 IP datagram, showing the fields in the IP header.

An IP Destination Address is a 32-bit value stored in a specific field of the IP address header that indicates an intended recipient for the datagram (for example, the 32-bit IP address 128.154.083.245 may be a IP Destination Address).

In sharp contrast, an IP ID is generally “a 16-bit value” stored in another field of the IP header. *See* col. 13, lines 5-6 and Fig 4, field 410. The IP ID is generally unique for each datagram, and typically is used in reassembly of datagram fragments by matching same IP IDs.

Since an **IP ID** is far different than an **IP Destination Address**, discussion of the use of an IP Destination Address bears little relevance to the Applicant’s claims. Accordingly, any suggestion in Boucher of associating datagrams with links on the basis of an IP Destination Address in no way suggests the Applicant’s claimed “*associating a fragment with a link on the basis of an IP ID.*”

As explained in detail below, when one looks to the actual discussion of IP ID in Boucher, it is clear that Boucher does not use IP ID in the manner claimed by the Applicant.

Claim Rejections - 35 U.S.C. §102

At paragraphs 6-11 of the Office Action, claims 1, 9-11, 16, 21, 22, and 27-33 were rejected under 35 U.S.C. §102(e) as anticipated by Boucher et al., U.S. Publication No. 2001/0027496, filed on March 12th, 2001 (hereinafter Boucher).

The Applicant notes that Boucher was filed on March 12th, 2001, approximately 3 months before the Applicant’s filing date. While the Applicant does not admit Boucher has actual prior art status, even assuming arguendo Boucher is prior art, the reference would not anticipate the Applicant’s claims.

The Applicant’s claim 1, representative in part of the other rejected claims, sets forth:

1. A method for uniformly distributing data transmitted by a server over a plurality of underlying links of an aggregate within a computer network, the method comprising the steps of:
 defining a unit of data as a datagram;
 apportioning each datagram into at least one fragment at the server;
 associating each fragment to an underlying link of the aggregate on the basis of an Internet protocol (IP) identifier (ID) of each datagram
and a number of active links of the aggregate; and
 transmitting the fragment over its associated underlying link
from the server to the computer network.

Boucher discloses a technique for processing network protocols that “collapses the layers of a connection-based, layered architecture such as TCP/IP into a single wide layer.” See paragraph 0012. Boucher discusses that the IP ID field of a datagram fragment is used in reassembling the datagram. See paragraph 0109. Boucher states in paragraph 0109 (emphasis added):

In this section we introduce the notion of a "context". A context is required to keep track of information that spans many, possibly discontinuous, pieces of information. When processing TCP/IP data, there are actually two contexts that must be maintained. *The first context is required to reassemble IP fragments.* It holds information about the status of the IP reassembly as well as any checksum information being calculated across the IP datagram (UDP or TCP). *This context is identified by the IP_ID of the datagram as well as the source and destination IP addresses.* The second context is required to handle the sliding window protocol of TCP. It holds information about which segments have been sent or received, and which segments have been acknowledged, and is identified by the IP source and destination addresses and TCP source and destination ports.

The Applicant respectfully urges that Boucher is silent concerning the Applicant's claimed “*associating each fragment to an underlying link of the aggregate on the basis of an Internet protocol (IP) identifier (ID) of each datagram*” and “*transmitting the fragment over its associated underlying link.*”

Boucher discusses IP ID in a single paragraph (i.e. paragraph 0109). Such paragraph simply describes using IP ID as part of a technique for reassembling datagram

fragments, the conventional use of IP ID which is widely described in textbooks on this subject. There is no suggestion in Boucher of using IP ID for a new purpose, namely as a **basis** for associating a fragment to an underlying link of a network. That is, fragments in Boucher appear to be associated with links **regardless** of their IP ID, i.e. IP ID is not a factor in determinating association with links. Thus Boucher does not suggest this aspect of the Applicant's claims.

Further, since Boucher lacks any teaching of *associating each fragment to an underlying link... on the basis of an Internet protocol (IP) identifier (ID)*, it follows that Boucher does not suggest transmitting a *fragment over its associated underlying link* based on IP ID.

Accordingly, the Applicant respectfully urges that Boucher is legally insufficient to anticipate the present claims under 35 U.S.C. §102 because of the absence of the Applicant's claimed novel "*associating each fragment to an underlying link of the aggregate on the basis of an Internet protocol (IP) identifier (ID) of each datagram*" and "*transmitting the fragment over its associated underlying link.*"

The Applicant's claim 21, representative in part of the other rejected claims, sets forth:

21. A method for distributing data over a plurality of network links within a computer network, comprising the steps of:
defining a unit of data as a datagram;
apportioning each datagram into at least one fragment;
associating each fragment to a network link of the plurality of network links according to a round robin policy based at least in part on an Internet protocol (IP) identifier (ID) of each datagram;
transmitting the fragment over the fragment's associated network link.

Boucher further discloses servicing four command queues associate with interfaces in a “round-robin” manner, to keep the four interfaces of a 4-port INIC busy. *See* paragraph 0561.

The Applicant respectfully urges that Boucher is silent concerning the Applicant’s claimed “***associating each fragment to a network link of the plurality of network links according to a round robin policy based at least in part on an Internet protocol (IP) identifier (ID) of each datagram.***”

As described above, Boucher simply uses IP ID as part of a technique for reassembling datagram fragments. *See* paragraph 0109. The separate discussion in Boucher relating to a round robin policy makes no mention of IP ID. Rather the round-robin policy appears to simply to be based upon a number of command queues. *See* paragraph 0561. Absent any suggestion that IP ID has any use in the round robin policy, Boucher may not fairly be interpreted as suggesting ***a round robin policy based at least in part on an Internet protocol (IP) identifier (ID) of each datagram.***

Accordingly, the Applicant respectfully urges that Boucher is legally insufficient to anticipate the present claims under 35 U.S.C. §102 because of the absence of the Applicant’s claimed novel “***associating each fragment to a network link of the plurality of network links according to a round robin policy based at least in part on an Internet protocol (IP) identifier (ID) of each datagram.***”

Claim Rejections - 35 U.S.C. §103

At paragraphs 22-30 of the Office Action, the Examiner rejected claims 2, 3, 12, 13, 17, 18, 23 and 24 under 35 U.S.C. §103 as being unpatentable over Boucher, in view of Takagi, U.S. Publication No. 2001/0036154, filed on April 20, 2001(hereinafter Takagi).

The Applicant notes Takagi was filed on March 12th, 2001, approximately 2 months before the Applicant’s filing date. While the Applicant does not admit Takagi

has actual prior art status, even assuming arguendo Takagi is prior art, the reference, in combination with Boucher, would not make obvious the Applicant's claims as explained below.

At paragraphs 31-36 of the Office Action, the Examiner rejected claims 4, 14, and 19, 25 and 26 under 35 U.S.C. §103 as being unpatentable over Boucher, in view of Narad et al., U.S. Patent No. 6,157,955 issued on Dec. 5th, 2000 (hereinafter Narad).

At paragraphs 37-42 of the Office Action, the Examiner rejected claims 5, 15, and 20 under 35 U.S.C. §103 as being unpatentable over Boucher, in view of Takagi, and in further view of Narad.

At paragraphs 43-49 of the Office Action, the Examiner rejected claims 6-8 under 35 U.S.C. §103 as being unpatentable over Boucher, in view of Takagi, and in further view of Narad, and in view of "Official Notice."

The Applicant traverses the Examiner's Official Notice.

The Applicant respectfully notes that claims 2-8, 12-15, 17-20, and 23-26 are dependent claims that depend from independent claims which are believed to be in condition for allowance. Accordingly these claims are also believed to be in condition for allowance.

In the event that the Examiner deems personal contact desirable in disposition of this case, the Examiner is encouraged to call the undersigned attorney at (617) 951-3078.


All independent claims are believed to be in condition for allowance.

All dependent claims are believed to be dependent from allowable independent claims.

The Applicant respectfully solicits favorable action.

Please charge any additional fee occasioned by this paper to our Deposit Account
No. 03-1237.

Respectfully submitted,



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